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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,679	03/15/2002	David John DiGiovanni	119.0008	5699
27997	7590	12/31/2003	EXAMINER	
PRIEST & GOLDSTEIN PLLC 5015 SOUTHPARK DRIVE SUITE 230 DURHAM, NC 27713-7736			LIN, TINA M	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/098,679	DIGIOVANNI ET AL.	
	Examiner	Art Unit	
	Tina M Lin	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

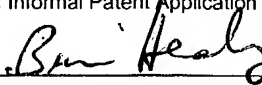
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 06/2003.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: 

DETAILED ACTION

The applicant's arguments have been carefully studied and re-evaluated by the examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth. This action is **not** made final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al. Gruner-Nielsen et al. discloses a dispersion compensation module with an input port and an output port that operates near the 1550 nm wavelength. Furthermore, a dispersion compensation fiber is spliced together with a transmission fiber, which is connected to input and output ports of a transmitter and receiver. But, Gruner-Nielsen et al. fails to disclose a dispersion compensating fiber to have a dispersion slope inflection point near the 1550 nm wavelength. Furthermore, Applicant defines the inflection point to be where the curvature changes from negative to positive and where the 2nd derivative is zero. Therefore, in figure 8, the inflection point appears to be approximately 1550 nm, at the peak of the curve, there the derivative is zero. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have designed a

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dispersion compensation fiber with a dispersion slope inflection point near 1550 nm. Gruner-Nielsen et al. also fails to disclose a dispersion compensating fiber to have a dispersion curve of the entire dispersion fiber and the individual fibers that substantially matches the relative dispersion curve of a transmission fiber over a bandwidth and each segment of the fibers to have a relative refractive index difference. However, it well known in the art to match dispersion curves of fibers to the dispersion curve of the transmission fiber for uniformity, therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a dispersion compensating fiber to have a dispersion curve of the entire dispersion fiber and the individual fibers that substantially matches the relative dispersion curve of a transmission fiber over a bandwidth.

Claims 5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al. as applied to claim 4 above, and further in view of U.S. Patent 6,304,691 to Espindola et al. In regards to claim 5, Gruner-Nielsen et al. discloses all stated above, but fails to disclose a wavelength bandwidth of more than 40 nm. But Gruner-Nielsen et al. fails to mention a value for a wavelength bandwidth. However, Espindola et al. discloses a bandwidth of 30 nm with the possibility of increasing the bandwidth by making the grating longer in the fiber. (Column 5) Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a bandwidth of 40nm or greater. In regards to claims 10 and 11, Gruner-Nielsen et al. discloses a dispersion compensating fiber with a core and cladding region and a dispersion compensating fiber with a relative dispersion slope near the 1550 nm wavelength. But, Gruner-Nielsen et al. fails to mention the region to provide a relative slope that substantially matches a relative dispersion

slopes of a transmission fiber over at least a 40 nm wavelength bandwidth. However, Espindola et al. discloses a bandwidth of 30 nm with the possibility of increasing the bandwidth by making the grating longer in the fiber. (Column 5) Furthermore, it would be optimal to match the slopes of the transmission fibers and the relative slopes of the core and cladding region for uniformity and consistency. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the core and cladding region to provide a relative slope that substantially matches the relative dispersion slopes of a transmission fiber over at least a 40 nm wavelength bandwidth.

Allowable Subject Matter

Claims 13-18 are allowed. The prior art of record fails to disclose or reasonably suggest a method for compensating the dispersion of an optical transmission line with the steps of mapping a relative dispersion slope, specifying a transmission wavelength, specifying an operating bandwidth and designing a dispersion compensating module having a relative dispersion slope that matches the relative dispersion slope of the fiber with an inflection point within the bandwidth. The closest prior art of record is U.S. Patent 6,654,531 B1 to Gruner-Nielsen et al. Gruner-Nielsen et al. discloses a dispersion compensation module with an input port and an output port that operates near the 1550 nm wavelength. Gruner-Nielsen et al. further discloses the inflection point appears to be approximately 1550 nm, at the peak of the curve; there the derivative is zero. But, Gruner-Nielsen et al. fails to disclose the step of mapping a relative dispersion slope and specifically designing a module with a relative dispersion slope to match the one of the transmission fiber with an inflection point at the specified bandwidth.

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Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, filed 1 July 2003, with respect to the rejection(s) of claim(s) 1-12 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made above.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449. None of the documents submitted by Applicant discloses or reasonably suggests the allowed subject matter disclosed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. None of the documents cited discloses or reasonably suggests the allowed subject matter disclosed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Brian Healy
Primary Examiner